

Community Clean Energy Resiliency Initiative



PON-ENE-2014-036

PROJECT IMPLEMENTATION APPLICATION INFORMATION

A. Background

Predicted climate change impacts—in particular, sea level rise and more frequent extreme storm events — have the potential to impair public and private services and business operations across the Commonwealth of Massachusetts. Preparing for these future impacts will take a coordinated effort of private and public sectors, non-profit organizations, and managers and users of infrastructure resources.¹ To increase energy infrastructure resiliency and reliability will also require investments in new technologies. Realizing this, Governor Patrick announced a multi-dimensional strategy to help Massachusetts prepare for climate change and the increasing incidence of severe weather.²

B. Clean Energy Resiliency Initiative

As part of the Administration's Climate Change Preparedness Initiatives, the Governor directed the Department of Energy Resources (DOER) to administer a \$40 million grant program to ensure energy resiliency at critical facilities in municipalities using clean energy technology.

As such, DOER's "Community Clean Energy Resiliency Initiative" (Initiative) recognizes that climate change-induced events impact our entire Commonwealth and that municipalities and other public entities (as defined in the Eligible Applicants sub-section below) are at the forefront of responding when such events occur. Therefore, the Commonwealth's municipalities and other public entities are eligible to apply for these grants. DOER anticipates geographic distribution of these funds across the Commonwealth.

Applicants can request support for eligible projects by completing and submitting DOER's Technical Assistance (TA) Application available through PON-ENE-2014-035 or a Project Implementation (PI) Application which is described below. These opportunities are related in that there will be two rounds of PI Applications; the first will fund projects that do not require technical assistance; the second will serve as the process by which plans coming out of the TA Application awards can become implemented projects. It is

¹ Massachusetts Climate Change Adaptation Report, Part II, Chapter 5, Key Infrastructure, September 2011

² EOEEA Press Release, "Governor Patrick Announces \$50M for Comprehensive Climate Change Preparedness Initiatives, Includes \$40M to harden energy services," January 14, 2014.

important to understand both parts of the Initiative so please review both this solicitation and the TA Application solicitation, and apply for the opportunity that best suits your needs.

1. Eligible Applicants

Massachusetts municipalities are eligible to apply for the Initiative, regardless of Green Community designation status or electric utility provider. Eligible applicants also include regional school districts, regional water districts, regional sewerage districts and regional planning agencies (RPAs).

Municipal Applications – A municipality may submit one application that includes one or more projects involving one or more facilities.

Public/Private Partnerships – Municipalities or other public entities as described above may partner with private entities as the project host, as described in the “Eligible Critical Facilities” section below or as project developers under agreement with the municipality or other public entity. The municipality or other public entity must serve as the lead applicant.

Joint Applications by Multiple Municipalities - Multiple municipalities may submit a joint application to share an energy resilient critical facility project. One municipality must be designated the lead, and if the application is awarded funds, DOER will contract with the lead municipality to manage the funding.

Regional Planning Agencies - RPAs may apply for the Initiative funding on behalf of at least 2 municipalities intending to share an energy resilient critical facility project.

- A single RPA may submit more than 1 application, but no more than 3 applications for multiple municipalities.
- If DOER awards funds for a RPA submitted application, DOER will contract with the RPA to manage the funding.
- To the extent that the facility(ies) addressed in an RPA application is in a municipality that has also applied for support through the Initiative, the RPA facility(ies) must demonstrate serving a regional need.

2. Eligible Critical Facilities

For this grant, DOER defines critical facilities as: *buildings or structures where loss of electrical service would result in disruption of a critical public safety life sustaining function*. DOER has prioritized these critical facilities and provided examples of critical facilities in the list below, but DOER does not limit the critical facilities to only these examples.

1. ***Life safety resources*** – e.g., police, fire, hospitals, wastewater treatment plants, emergency communication resources and shelters;
2. ***Lifeline resources*** – e.g., food and fuel supply, and transportation facilities and resources; and
3. ***Community resources*** – e.g., city/town halls, senior centers, schools and/or multi-family housing developments capable of acting as alternative shelters.

Critical facilities may be publicly or privately owned and operated. The lead eligible applicant, however, must demonstrate to DOER that any private facilities (e.g. hospitals, fueling stations, grocery stores, or housing) have entered into or are pursuing entry into a Memorandum of Understanding to provide the applicant critical

functions for public benefit in the case of an emergency event. Such a Memorandum of Understanding must be completed prior to any award being made by DOER.

3. Eligible Clean Energy Technologies

DOER may fund projects that incorporate the eligible clean energy technologies **at critical facilities**. The eligible technologies are listed below. These eligible technologies may be strategically integrated with existing or new conventional back-up generation (such as diesel generator), but funds from this Initiative cannot be expended on such conventional technologies. Eligible technologies include:

Clean Energy Generation, such as:

- Renewable electric energy generation
- Renewable thermal energy generation
- Combined heat and power (CHP) and district energy systems utilizing natural gas or renewable fuels.
 - CHP or Fuel Cell systems with waste heat utilization must achieve annual system efficiency of at least 65%
- High efficiency (at least 50%) fuel cells

Energy Storage, such as:

- Batteries, flywheels, electric vehicles with vehicle to grid capabilities, thermal storage including hot/cold water, ice, and other phase change storage

Energy management systems that enable load shedding used to isolate and serve critical loads during an event, such as:

- Advanced controls, switches, load management software and critical load panels

Islanding Technology, such as:

- Advanced controls, switches, inverters and other grid stability technologies

Microgrids

- Defined as multiple buildings on one or more meter that are interconnected with electric and/or thermal distribution infrastructure, are served by distributed generation, and can operate either in parallel with or islanded from the broader utility grid.

4. Project Implementation Application

The opportunity allows eligible applicants to pursue either technical assistance **OR** project implementation. This solicitation is for the Project Implementation (PI) Application. The solicitation under PON-ENE-2014-035 describes the Technical Assistance (TA) Application.

DOER anticipates providing awards for project implementation only to applicants who demonstrate a suitable technical and financial readiness. The projects on this application must meet the following:

- use eligible clean energy technologies;
- be sited at eligible critical facilities;
- demonstrate strategic electric isolation of critical loads from non-critical building loads to effectively extend resiliency capability;
- be able to operate in parallel with the grid during “blue sky” days and island and operate in isolation from the grid during a broader grid outage;
- meet utility interconnection strategy guidelines; and
- follow the Initiative funding guidelines.

Acceptable projects may include retrofitting a system with existing generation to become resilient or installing a new resilient distributed generation system. These system types may be sited at a single facility, at multiple isolated facilities or among a network of connected facilities.

For Project Implementation (PI) Applications, all applications are due to DOER by 5:00 p.m. on November 10, 2014 at which time DOER will begin to review all PI Applications received.

5. Applications Criteria and Submittal

Number of Facilities - Applications may consist of a project at a single building project, multiple independent buildings, or multiple interconnected buildings (a microgrid).

Incomplete Applications - Applications must contain, at a minimum, the information requested in the application. DOER will reject incomplete applications.

Submittal Process - All applications are to be submitted via the submission process outlined below in the “Instructions” section. All applications or supporting documents received after these dates and times will not be considered.

6. Funding Guidelines

For PI Application funding, all applicants must demonstrate that they have fully utilized and accounted for available federal, state, and utility incentives outside this grant opportunity in the determination of the grant need from this solicitation. A list of potentially available financial resources can be found on the DOER website.

Initiative funding will cover the following costs:

- system design and engineering costs;
- clean energy generation (electric and thermal) and storage costs that are not covered by other incentives;
- clean energy equipment that provides for resiliency;
 - For example, energy storage for solar photovoltaic panels and additional power electronics for islanding capability or grid-isolation and black start equipment for CHP systems.
- interconnection costs related to resiliency equipment;
- installation costs;
- administrative costs (not to exceed 10% of total costs); and
- other costs as deemed appropriate by DOER.

Initiative funding will NOT cover the following costs:

- the portion of the cost of clean energy equipment that is already financially incentivized by other state, federal, utility, non-profit or private programs;
 - For example, solar photovoltaic panels that qualify for Solar Renewable Energy Credits (SRECs) and net metering, and CHP systems that qualify for Alternative Energy Certificates (AECs) and utility energy efficiency rebates.
- project costs at non-critical facilities;
- conventional energy generation, such as diesel generators;
- non-energy related infrastructure and capital costs; and
- other costs deemed inappropriate by DOER.

DOER will award up to \$20 million of the grant funding in the first round of PI Applications. The remaining \$20 million or more will be available to second round PI applicants that have previously received a technical assistance award the Initiative as well as any PI projects that scored well in their evaluation but went unfunded in the first round. Any PI project applicant that was funded less than 100% of their requested first round PI project application dollar amount may submit a revised PI project Application in the second round of PI project Applications, which will be evaluated by DOER against all other second round PI project Applications. Information on the TA Application process can be found through the solicitation PON-ENE-2014-035.

The applicant submitting a PI Application must provide a minimum of 10% match of funding for the project, with no more than half of the match allowed as in-kind. Match provided by an RPA applying on behalf of multiple municipalities is acceptable.

The **MAXIMUM** grant funding available for any PI applicant will be calculated based on a relative per capita income and population multiplier for the applicant's municipality and be subject to an **overall upper limit of \$5 million**. There is no floor for grant requests. Projects serving more than one municipality should use the summation of the maximum grant award calculation for all municipalities involved. DOER does maintain the right to consider projects beyond this funding limit based on available budget particularly in the case of coordinated applications across more than one municipality, as well as complex microgrid projects. DOER reserves these maximum amounts for applicants who have demonstrated preparedness and capacity to implement significant projects or comprehensive efforts across multiple facilities. More straightforward energy resiliency projects should not need to seek these maximum amounts.

The **MAXIMUM** grant award calculation is as follows:

- \$125,000, plus
- A municipality specific adder based on per capita income ([2011 Massachusetts Department of Revenue data](#)) and population ([2012 US Census data](#)) calculated as follows: $\$10.00 * \text{population} * (\text{state median per capita income} / \text{municipality per capita income})$.
- A further 10% for interconnection costs and a second 10% for administrative costs.
- The overall grant maximum is \$5 million.

For example, a municipality with a median per capita income of \$25,000 and a population of 100,000 would be eligible for a maximum award of \$1,586,496, calculated as follows:

$$= (\$125,000 + (\$10 * 100,000 * \$29,927 / \$25,000)) * 1.2.$$

Note: This is based on a state median per capita income of \$29,927.³

A broad range of projects are possible under this Initiative. Samples of projects across this range are listed below. These projects are not prescriptive or comprehensive of the possible options, but an example of projects of varying complexity, cost and benefit.

- a) **Single Facility, Electrical: A municipal fire house (single building project)** – Retrofit of an existing rooftop solar PV system adding battery storage, a critical load panel to allow the system to just serve critical loads, an inverter that will allow for islanded operation, and any necessary interconnection upgrades to satisfy utility requirements.

³ 2011 Massachusetts Department of Revenue, State per capita income (median), US Census and EQV
<https://dls.gateway.dor.state.ma.us/DLSReports/DLSReportViewer.aspx?ReportName=IncomeEQVperCapita&ReportTitle=DOR+Income+and+EQV+per+Capita>

- b) ***Single Facility, Thermal: School serving as community shelter during an emergency (single building project)*** – Installation of an islandable and black-start capable gas-fired CHP system with a thermal storage system to serve critical electric loads and provide building heating or cooling.
- c) ***Multiple Facilities: Waste water treatment plant (WWTP) and a municipal police station (multiple building project)*** – Retrofit of an existing anaerobic digestion system at the WWTP to make the system islandable and black start capable; the addition of solar PV, battery storage, a critical load panel, an inverter that will allow for islanded operation, and any necessary interconnection upgrades to satisfy utility requirements at the WWTP; and a similar islandable solar PV and storage system at the municipal police station. These would be projects at two independent sites within one municipality, submitted under the same application.
- d) ***Microgrid: Health services and shelter microgrid project*** – The incorporation of an islandable, black-start capable CHP system at a hospital with an islandable solar PV system and battery storage (as described in numbers 1 and 3 above) at a neighboring school that can serve as a shelter. This project requires working with the local utilities to allow the distribution of electricity across public ways.

Disbursement of funds will be based on contracts signed with each awarded applicant. Milestones and reporting requirements will be established through the contracting phase.

For projects submitted under a Round 2 Project Implementation application where the complexity of the project requires additional design and engineering, an applicant may opt to be awarded based on a phased contract approach, by indicating as such on their application form. The phased contract would allow for an initial disbursement for design costs related to the pre-construction expenses (e.g., feasibility study, engineering, and utility impact study costs) and subsequent disbursement(s) for the construction expenses once the design phase is complete and cost estimates refined. A Round 2 Project Implementation application will be evaluated on the full project proposal and should provide a best estimate for construction expenses as the amount specified for construction expenses will be reserved for the second phase of disbursement. A budget, revised upon completion of the full design work, that is significantly in excess of these estimates may be approved on a competitive basis, given funds are available.

C. Evaluation Criteria

Geographic Diversity:

In recognition that climate events are known to affect all regions of the Commonwealth, DOER will make awards, to the extent possible, in a manner that fairly distributes this public support across all regions of the Commonwealth.

Proposal Content:

- Thoroughness of the entire proposal package;
- High quality and realistic project plan;
- Comprehensive reasoning behind project site selection:
 - Identification of critical services to be supported,
 - Prioritization of critical facilities that will provide those services,
 - Anticipated outage duration being addressed;

- Demonstrated effort to address the primary vulnerabilities and needs of the community including, but not limited to: high population density, high-need populations, and specific environmental hazards and risks to the community; and
- Demonstrated past and ongoing commitment to addressing climate change and emergency response and recovery such as participation in the Green Communities program, energy efficiency audits and measure implementation at critical facility(ies), deep energy retrofit at critical facility(ies), and comprehensive emergency planning.

Proposal Finances:

- Meeting or exceeding cost share requirement.
- The extent of incorporation of all relevant financial resources, including but not limited to state and federal incentives (grants, tax credits, RPS/APS, net metering), loan opportunities, private partnerships, ancillary market participation (reserve capacity and/or voltage regulation), demand response market participation, etc. with more comprehensive incorporation evaluated more strongly.
- Clear plan for ongoing operations and maintenance costs.

Proposal Technical Details:

- Projected technical and operational performance, and reliability of the project, including the incorporation of islanding and black start capability.
- Well-described plan to continuously operate with no planned outage or down time for maintenance while in island mode 24x7, despite an extreme weather event, for at least 3 days, with longer duration receiving higher scores.
- Demonstration of energy efficiency audit and implementation of recommendations at project site.
- Demonstrated success in working with utility company in pursuing interconnection procedures, including advanced communications and planning for any microgrid application.
- Clear plan to expeditiously execute the proposed project.
 - For Single building projects, proposals with a plan to complete projects before the end of calendar year 2014 will be given priority.
 - More complex projects will be evaluated more strongly the sooner they can be completed.
 - All projects should demonstrate a strong plan for completion by the end of calendar year 2015 at the latest.
- Clear plan for continued operation and maintenance of installed equipment.

D. Webinars and Outreach

DOER will also host webinars on Thursday, May 22, 2014 at 11 a.m. and Wednesday, May 28, 2014 at 11 a.m. to provide an opportunity to more thoroughly explain the Initiative and answer questions from potential applicants. The first webinar will provide an overview of the solicitation and the second will provide a more in-depth look at the requirements for the PI Application. There will also be a third webinar covering the requirements for TA Application and an in depth discussion of the technical assistance services offered by the consulting team on Tuesday, May 27, 2014 at 3 p.m. for those who might be interested in that opportunity as well.

E. Procurement Calendar and Asking Questions

DOER issues PON	May 15, 2014
Deadline for submitting PI Application questions	July 8, 2014

ROUND ONE PI APPLICATION DEADLINE	July 15, 2014
Round One PI Application awards announced (subject to change)	August 15, 2014
ROUND TWO PI APPLICATION DEADLINE	November 10, 2014

As mentioned above, there will be a follow-on round of project implementation funding available to TA applicants looking to implement projects outlined through the technical assistance process. The deadline for these applications is November 10, 2014. Any PI Applications from Round One that scored well in their evaluation but went un-funded will be reconsidered for funding in this second round. Round Two awards will be announced on December 12, 2014 (subject to change). Information on the TA Application process can be found through the solicitation PON-ENE-2014-035.

F. Contact Information

For further information, questions and submissions please contact:

Amy McGuire

Massachusetts Department of Energy Resources

Renewable Energy Project Coordinator - Community Clean Energy Resiliency Initiative

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Questions and answers will be posted periodically on the DOER website at <http://www.mass.gov/eea/grants-and-tech-assistance/guidance-technical-assistance/agencies-and-divisions/doer/doer-procurements.html>

G. Instructions

- Applicants must complete all required application forms and attach all requested documents. Incomplete applications will not be accepted.
- Applications must be submitted via email to Amy McGuire at Amy.McGuire@state.ma.us.
- All Round One PI Applications are due to DOER by 5:00 p.m. on July 15, 2014.
- All Round Two PI Applications are due to DOER by 5:00 p.m. on November 10, 2014.
- Milestone reporting is required for all awarded PI Applications. DOER will provide grant recipients with detailed requirements after a grant award is executed.
- This application information is available at www.commBuys.com as PON-ENE-2014-036.